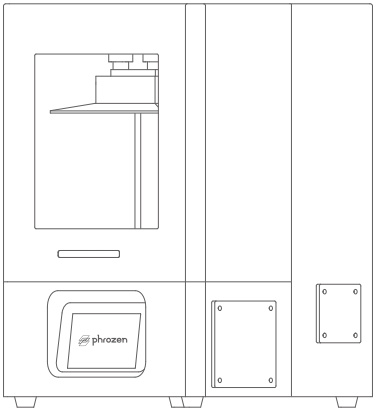
phrozen



User Manual for Sonic XL 4K

Thank you for Choosing your Phrozen 3D Printer !

Dear Phrozen's User,
Glad you've joined us. For the best experience, please read through the Phrozen manual and follow step-by-step before you start.

Feel free to contact us if you have any questions.
Email: support@phrozen3d.com

Multi-language manuals and related software are available on our official website at phrozen3d.com/page/download

- Facebook: @Phrozen3d
- Twitter: @Phrozen3d
- Instagram: @Phrozen3d
- Youtube: @Phrozen3DPrinter

Chinese version starts from Page 18 ▸▸▸

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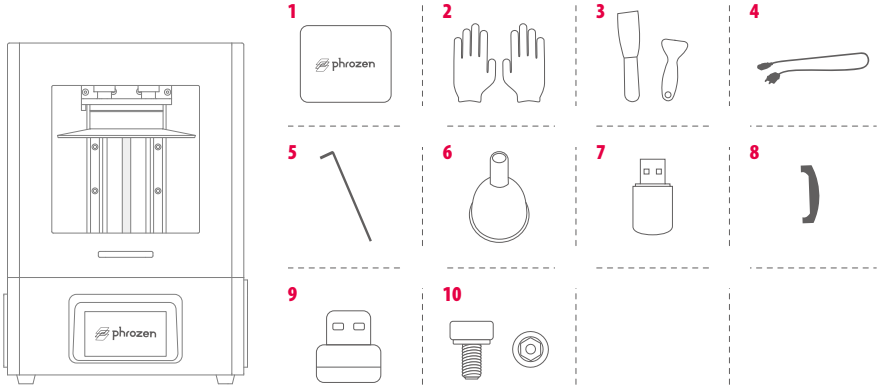
Key Notes Before We Start !

- Keep printer & resin away from kids and direct sunlight exposure. Also make sure to print in a cool, dry, and ventilated environment.
- Every printer is pre-calibrated. However, we still recommend that you calibrate when you print for the first time.
- Before starting every print, please clean the resin vat and refill the resin to avoid potential debris and pigment separation which may affect your printer / print.
- Fill the resin vat approximately 1/3 of the way full. DO NOT OVERFILL.
- Please wear PPE (Personal Protective Equipment) like mask, goggles, and long sleeves when operating printers and resins.
- Please clean the model with 95% Alcohol, IPA, or special detergent like Phrozen Wash.
- Be careful when using scraper to remove the print from the build plateform. It might cut your hand if used carelessly.
- Please DO NOT dis-assemble the printer by yourself. It may cause your warranty to be expired.

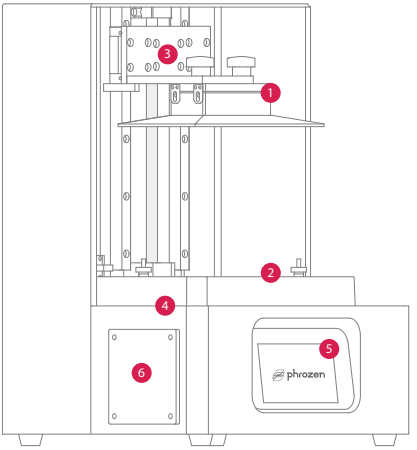
What You Have In The Box

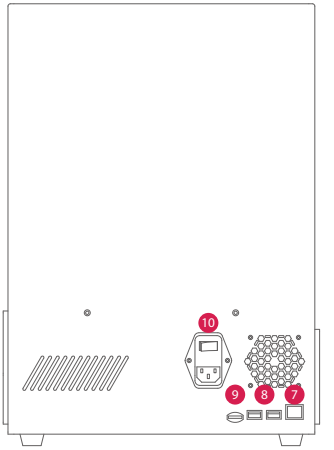


Sonic XL 4K

1. User Manual
2. Gloves
3. Scrapers
4. AC Power Cord
5. Allen Wrench
6. Plastic Funnel
7. USB
8. Handle
9. WIFI Dongle
10. Backup Screws

Printer Parts





1. Build Platform
2. Resin Vat
3. Z-Axis
4. LCD
5. Touch Panel
6. Fan
7. Ethernet Port
8. USB Port
9. SD Card
9. Power Switch

Sonic XL 4K Technical Specs

System:	Phrozen OS
Operation:	5 inch Touch Panel
Slicer Software:	Phrozen 3D Powered by Formware
Connectivity:	USB / Ethernet / WIFI

Operation

Technology:	Resin 3D Printer - LCD Type
Light Source:	405nm ParaLED® 3.0 Module
XY Resolution:	0.050 mm
Layer Thickness:	0.01 - 0.30 mm
Printing Speed:	90 mm / hr
Power Requirement:	AC100-240V~50/60Hz

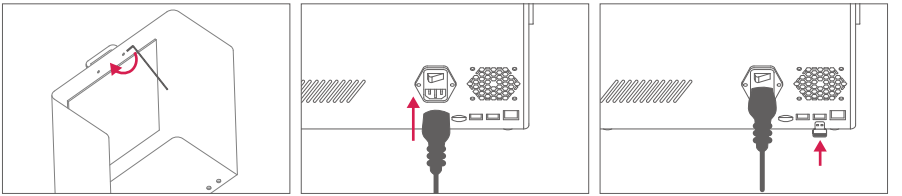
Printing Specification

Printer Size:	L11.4 x W13 x H18.5 in
Printing Volume:	L4.7 x W7.5 x H7.9 in
Printer Weight:	19.5 kg

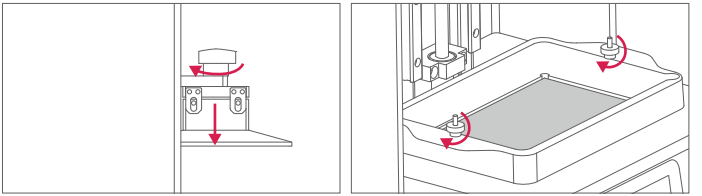
Hardware Specification

Calibrate & Test

1. Assemble the handle on the door,plug in AC Power Cord,and Wifi Dongle.

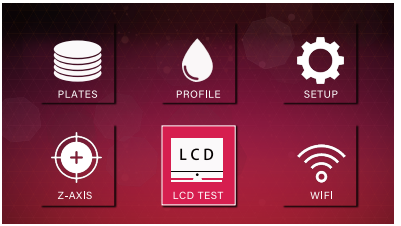


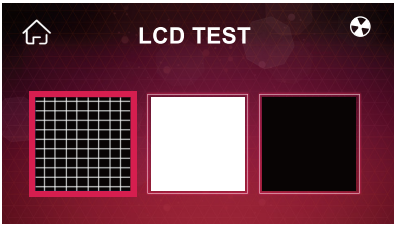
2. Screw the build platform and resin vat on the printer and tighten them.



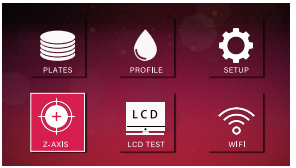
3. Turn on the printer.Phrozen OS will be ready in 45 secs.

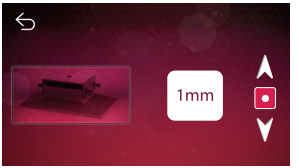
4 Click **LCD TEST**.then choose grid pattern.If the LCD displays a complete image as shown on touch panel,that means the optical engine(LCD+LED) works perfectly.

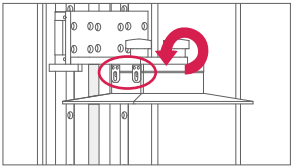


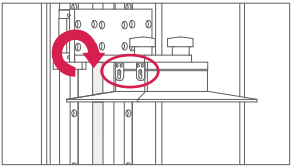


5 Loosen the 4 screws on the side of the build platform with an Allen wrench.



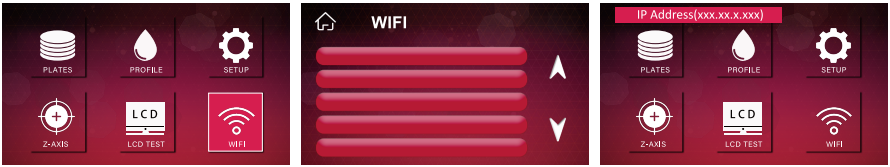




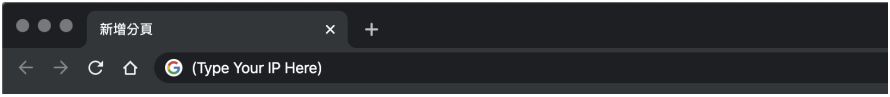


Connect WIFI

1. Make sure your WIFI dongle is plugged in.Connect your **WIFI** by choosing it on touch panel.Your IP will show up on the main menu.



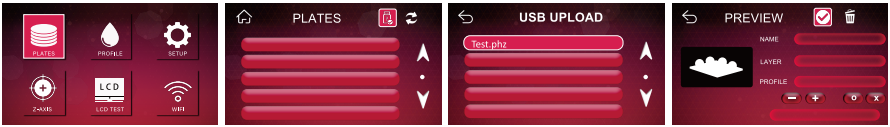
2. Connect your laptop to same WIFI.Type the IP address into your browser. (Better use Google Chrome).Then you connect to the printer.



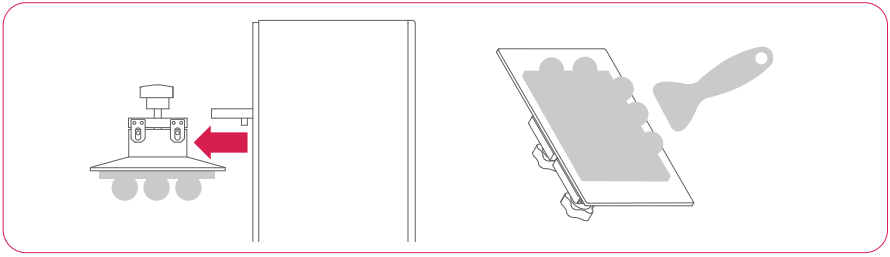
3. Webpage interface:
   In **PLATE** page,you can upload your sliced 3D file and select the resin profile.
   In **PROFILE** page,you can create or modify your printing parameters.
   In **WIFI** page,you can change your connection to WIFI.

Test Printing (by USB)

1. Shake the resin for 1 minute and pour it into the vat to fill 1/3 of the vat.
2. Plug USB(with sliced 3D file) into the printer.
3. Go to **PLATES**,select **USB** icon,and load the sliced 3D files in the USB through touch panel and click **V(PRINT)**button.
4. Once the printing process starts,close the metal case and wait until the process finishes.

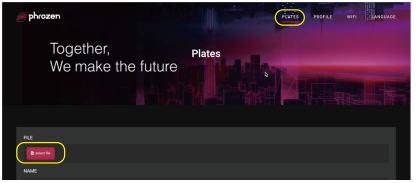


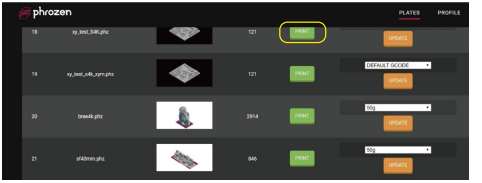
5. Once the process is complete,wait until theirs is no resin dripping from the build platform once completed.
6. Then use a scraper CAREFULLY to remove the print.



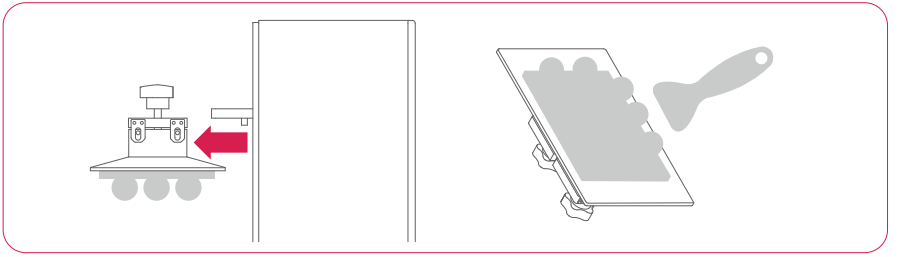
Test Printing (by WIFI)

1. Shake the resin for 1 minute and pour it into the vat to fill 1/3 of the vat.
2. Connect printer by web browser.Go to **PLATES**,select and upload the sliced 3D files you would like and click **Print**.
3. Once the printing process starts,close the metal case and wait until the process finishes.





4. Once the print is complete,wait until there's no resin dripping.
5. Use a scraper CAREFULLY to remove the print.



Post Processing

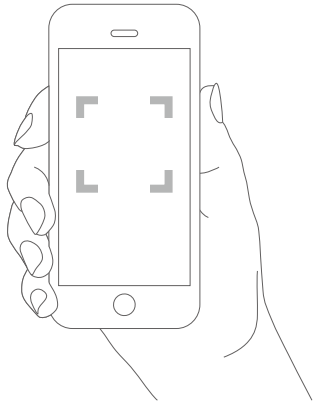
1. Use 95% alcohol,IPA,or detergent like Phrozen Wash to clean your print.
2. An Ultra-sonic cleaner is recommended for cleaning hollowed parts.
3. Post-cure your print by UV lamp.Curing time depends on the intensity and wavelength of your lamp.Prints can be cured within 15 minutes in average by Phrozen Cure.

Post-Processing

youtu.be/0gker8J-9FM

Youtube channel

https://reurl.cc/0z5G8b



SAFETY GUIDE

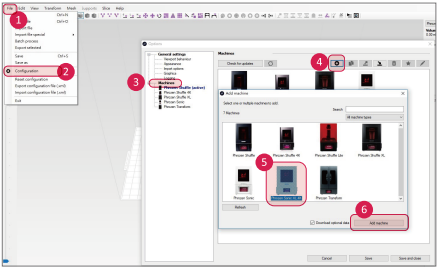
1. Keep resin away from direct sunlight exposure.
2. DO NOT dump resin casually.Care for it completely and then treat it as general plastic waste.
3. Wear PPE(Personal Protective Equipment) like goggles,gloves...etc.
4. Resin is not allowed to be swallowed or have contact with eyes and skins directly.
5. Stop using UV resin if it causes allergies.

Prepare Your File

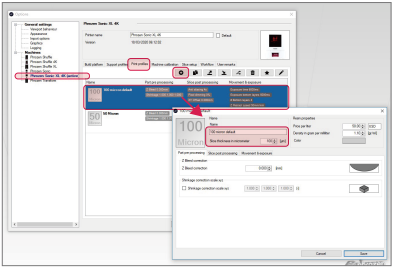
❶ Download and Install Phrozen 3D

❷ Find Phrozen 3D Setting

- When open the software,go to **File** → **Configuration** → **Machines** → **+** → select **Phrozen Sonic XL 4K** as your default printer → Click **ADD Machine**.

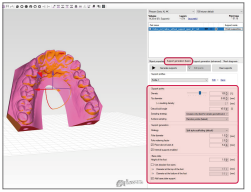
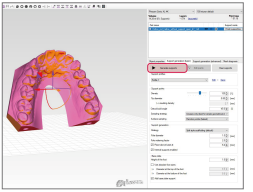


- Choose your printer and setup the layer height you want to slice.



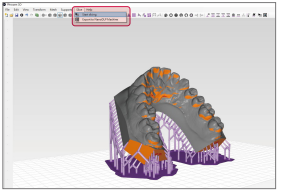
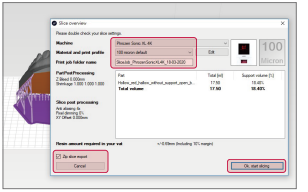
❸ Building Support

- Set the following parameters when building support.
- **Density :** >80% is good to start with.
- **Support Tip Diameter :** 0.8-1.2mm is good for standard models.
- **Base :** Better to make it larger than the model.
  Press START to build the supports automatically.

❹ Slice and Save the Model

- Click slice and start the slicing.Please export it as a ZIP file.Then you can upload the sliced file by USB or WIFI to the printer.

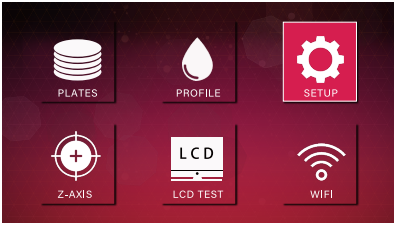
Safely Shutdown Your Printer

Phrozen OS is built-in to the SD card and loaded onto the printer.Shutting down the printer properly will protect the Phrozen OS from system corruption.

❶ **Safety Shutdown Process**

GO to **SETUP** page.Click **SHUTDOWN**.

When the touch screen shows the turn off image,turn off the power on the printer.



❷ **If your printer cannot be restarted...**

Please reflash the SD card with the default firmware.

You can find firmware either in the USB that comes with the printer or watch instructional videos on Phrozen's YouTube channel.

Maintenance

❶ How to Replace FEP & LCD

- Check our Youtube Channel for more details.

❷ How to Maintain Z-axis

- General lubricant could be applied on the Z-axis screw to make it move fluently.

❸ Clean the Vat with Proper Tool

- To protect release film, use plastic spreader to clean the vat instead of sharp scraper.

❹ Remove Build Platform with Care

- The Build Platform will damage the LCD screen if it bumps against it.

❺ Storage of Resins

- Filter the resin and make sure there are no residues. Keep the resin in opaque & sealed bottles without sunlight exposure.

❻ Cleaning the Printer

- Clean the printer, build platform, and resin vat with alcohol and tissues directly.

FAQ

1. **My Sonic XL 4K will not Function**
- Phrozen offers a full one-year warranty on the 3D printer,excluding consumables like LCD,vat,and FEP film.
- If your printer doesn't work,please contact us through support@phrozen3d.com
- If you buy the Sonic XL 4K from our distributor,please contact them for claim of warranty.
- Order ID is required if you need to claim a warranty.

2. **Model Is Not Able To Stick To the Build Platform**
- Re-do Z-axis calibration or increase the cure time in the base layer.
- Roughen the build plate surface by sanding it.

3. **Model Is Falling Down In Vat,but Supports / Base Stick To Build Platform**
- Check whether the curing time is in proper range.
- Check the support setup-increasing support density & tip diameter may help.

4. **Something Is Missing on My Finished Print**
- Check whether the curing time is in proper range.
- Check whether there is debris between the resin vat and LCD.
- Check if there are dead pixels on LCD.

5. **My Printer Is Hanging During The Booting**
- Re-insert the SD card and restrart the system.
- If you restart 5 times and cannot boot up,please contact us through support@phrozen3d.com to get firmware to reflash the SD card.

Congratulations!

You have finished your first run of the printing. Hope you have a great experience with Phrozen Sonic XL 4K.
Now it's the beginning of your 3D printing journey. Here are 3 tips for you.

1. Follow Phrozen Facebook Page for latest news & updates.

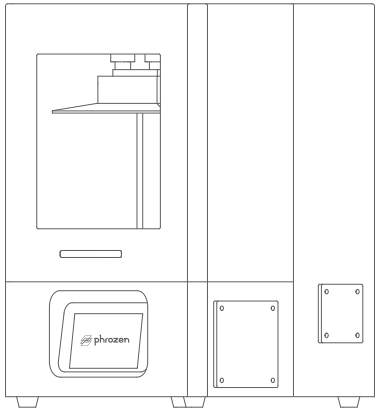
2. Join **Phrozen 3D Printer Group** to discuss with other users.

3. When you have questions, feel free to contact us by emailing support@phrozen3d.com or send private message to Phrozen Facebook Page. (facebook.com/messages/t/Phrozen3DP)

Send private message to Phrozen Facebook Page.

- Facebook: @Phrozen3d
- Twitter: @Phrozen3d
- Instagram: @Phrozen3d
- Youtube: @Phrozen3DPrinter

phrozen



使用說明 Sonic XL 4K

感謝您的支持與選購!

親愛的使用者您好,
非常開心您的加入，為了有良好的使用品質，請您務必詳閱產品說明書並參照每一個步驟，謝謝。

如果您對於操作有任何疑問，歡迎聯繫我們團隊
信箱 | support@phrozen3d.com

可至官網的支援專區下載(不同語言版本及軟體說明書)
網址 | phrozen3d.com/page/download

- Facebook: @Phrozen3d
- Twitter: @Phrozen3d
- Instagram: @Phrozen3d
- Youtube: @Phrozen3DPrinter

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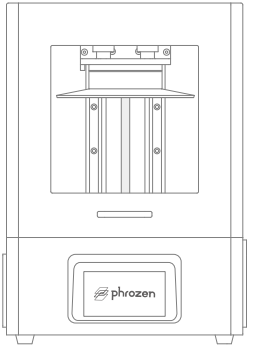
操作前的注意事項！

- 將列印機和樹脂保持在室內涼爽、乾燥和通風之處，避免陽光直射與兒童接觸。
- 每台列印機在原廠均已預先校正。不過，我們建議您在首次使用時再次進行校正。
- 每次列印之前，請清潔樹脂槽內可能潛在的碎屑和顏料並重新填充樹脂於槽內，進而保持列印機和列印成品品質。
- 建議將樹脂填充至1/3的樹脂槽高度即可，避免列印時樹脂溢出。
- 操作列印機和樹脂時，請穿戴口罩、護目鏡和長袖外套等個人防護設備。
- 請使用95%酒精，IPA或Phrozen Wash之類的特殊清潔劑清潔模型。
- 使用刮板從底板上取下列印件時要小心。如果操作不當，可能會割傷您的手。
- 請不要自行拆卸列印機。可能會導致保固失效。

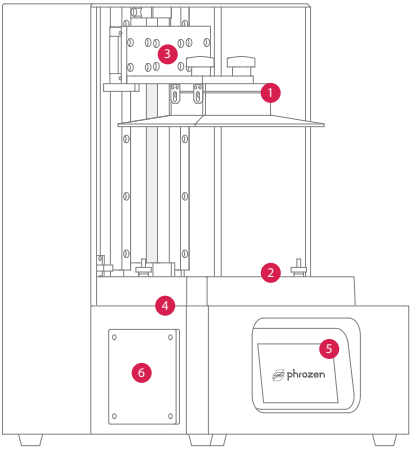
配件盒內容物

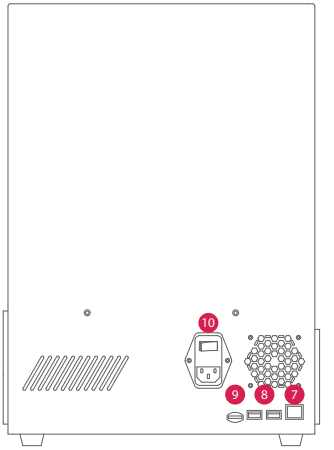


Sonic XL 4K

❶ 操作手冊
❷ 手套
❸ 軟硬刮刀
❹ AC 電源線
❺ 六角板手
❻ 塑膠漏斗
❼ USB
❽ 把手
❾ USB無線網卡
❿ 螺絲

列印機零件





1 列印載台　2 樹脂槽　3 Z軸　4 LCD面板　5 觸控螢幕

6 風扇　7 有線網路孔　8 USB 孔　9 SD 記憶卡　9 電源開關

技術規格

操作系統

機台系統:	Phrozen OS
操作介面:	5 **英寸觸控螢幕**
切層軟體:	Phrozen 3D Powered by Formware
上傳方式:	USB / Ethernet / WIFI

技術規格

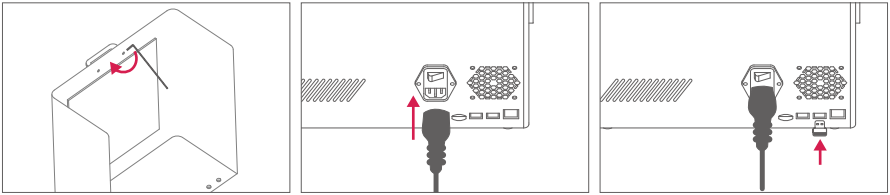
技術:	LCD **光固化**
光源:	405nm ParaLED®**平行光模組**
XY 解析度:	0.050 mm
建議層厚:	0.01 - 0.30 mm
列印速度:	90 mm / hr
電源需求:	AC100-240V~50/60Hz

硬體規格

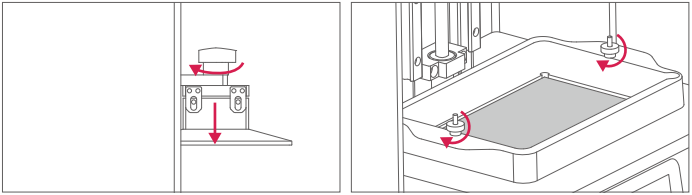
機器尺寸:	**(長)**29 x **(寬)**33 x **(高)**47 cm
列印尺寸:	**(長)**12 x **(寬)**19 x **(高)**20 cm
機器重量:	19.5 kg

校正與測試

❶ 將門把組裝在門片上，插入AC電源線和USB無線網卡。

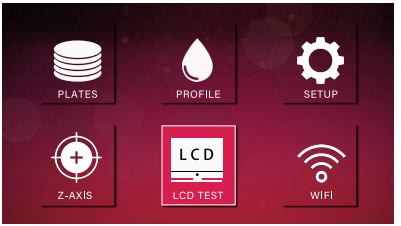


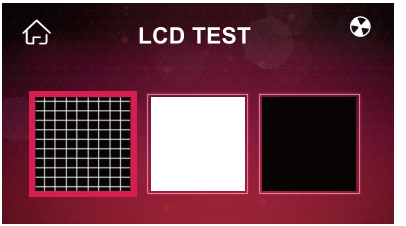
❷ 將列印載台和樹脂槽固定到列印機上。



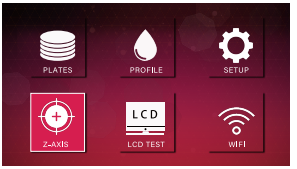
❸ 啟動3D列印機，Phrozen操作系統將在45秒內準備就緒。

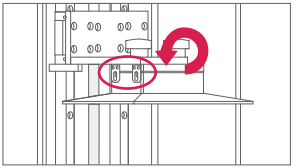
4. 點擊 **LCD TEST**，接著選擇網格圖案。此時LCD顯示與觸控螢幕相同的完整圖像，代表光學引擎(LCD+LED)運作良好。

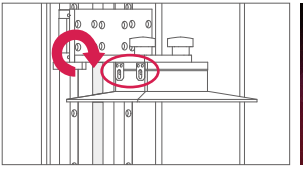


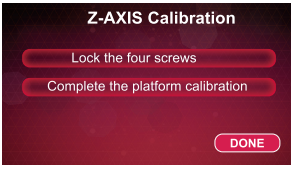


5. 用六角扳手鬆開列印載台側面的4個螺絲。



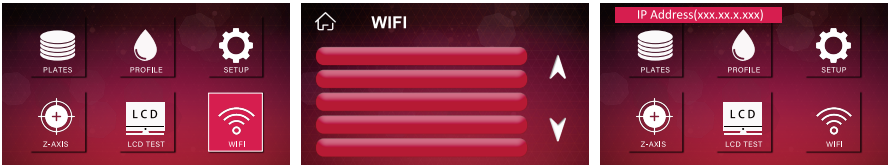




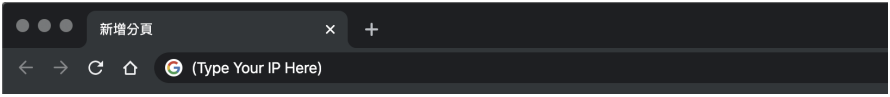


連接WIFI

1. 確保您的USB無線網卡已插入機器，點選觸控面板的**WIFI**連線，您的IP將顯示在主畫面的左上角。



2. 將電腦連機到相同的WIFI，在瀏覽器中輸入IP地址。(建議使用Google Chrome)，即可連接到3D列印機。



3. 網頁介面:

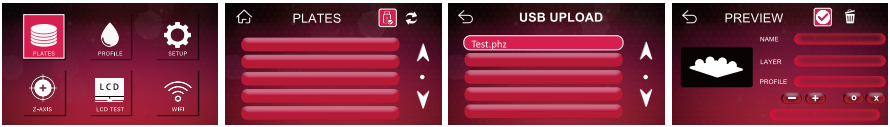
   在**PLATE**頁面，您可以上傳切片檔案並選擇樹脂檔案。

   在**PROFILE**頁面，您可以創建或修改列印參數。

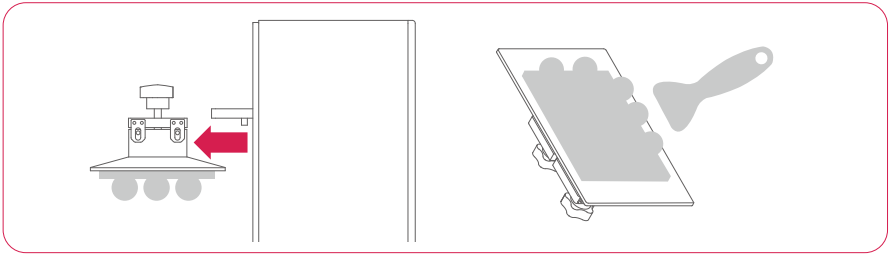
   在**WIFI**頁面，您可以將連接方式更改為WIFI。

測試列印(透過USB傳輸)

1. 搖動樹脂瓶1分鐘，然後將樹脂倒入樹脂槽中約1/3的高度。
2. 將存有切片檔案的USB插入列印機後方的USB孔中。
3. 點選**PLATES**，選擇**USB**圖標，然後將切片檔案加載到USB中，點擊觸控螢幕的**V**列印。
4. 一旦開始列印過程，請關閉金屬外蓋並等待列印結束。

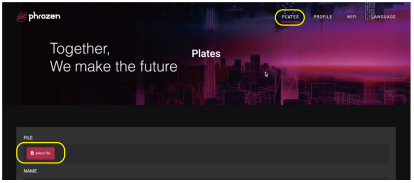


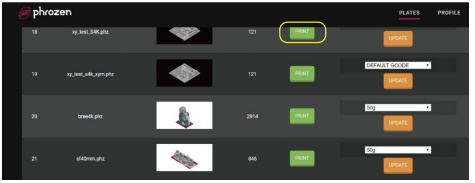
5. 列印完成後，請等待沒有樹脂從建構平台上滴下列印為止。
6. 請小心地使用刮板除去列印物件。



測試列印(透過WIFI傳輸)

1. 搖動樹脂瓶1分鐘，然後將樹脂倒入樹脂槽中約1/3的高度。
2. 通過網頁瀏覽器連接3D列印機。點選PLATES，選擇並上傳切片檔案，然後點擊Print列印。
3. 一旦開始列印過程，請關閉金屬外蓋並等待列印結束。





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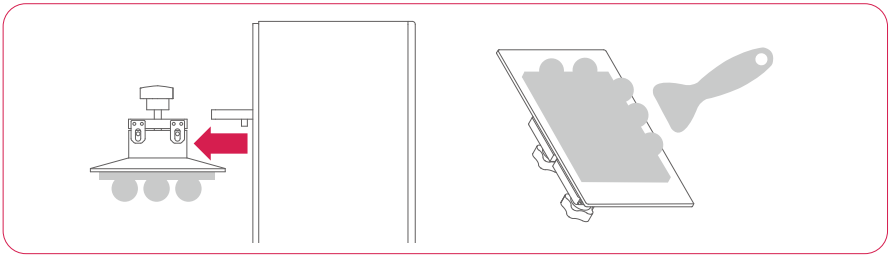


列印後處理

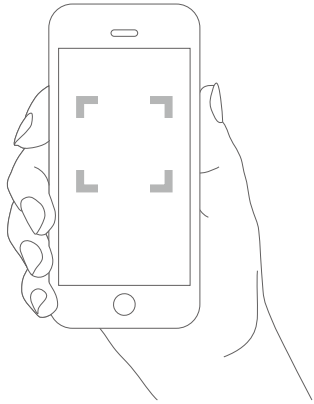
1. 使用95%的酒精、IPA或Phrozen Wash之類的清潔劑清潔模型。建議使用
2. Phrozen超聲波清潔器可清潔更細微部位。
   用紫外線燈對模型進行後固化。固化時間取決於燈的強度和波長。
3. Phrozen Cure平均可以在15分鐘內固化完成。

Post-Processing

youtu.be/0gker8J-9FM

Youtube channel

https://reurl.cc/0z5G8b



SAFETY GUIDE

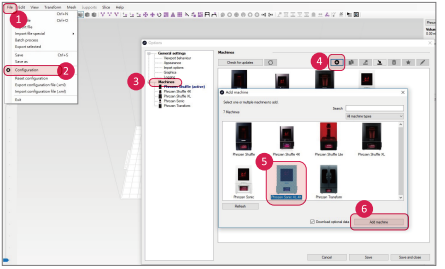
1. 樹脂應避免陽光直射。
2. 如果會引起過敏，請立即停止使用樹脂。
3. 操作時應佩戴護目鏡和手套等個人防護設備。
4. 禁止吞嚥樹脂或使樹酯直接與眼睛和皮膚接觸。
5. 不要任意傾倒樹脂。將樹酯固化後，依一般事業廢棄物處理即可。

檔案規格/軟體操作

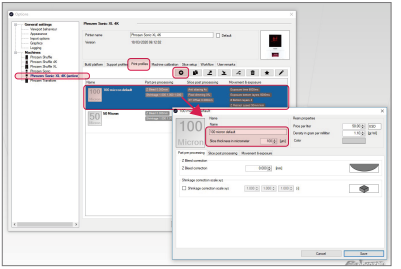
❶ 下載並安裝Phrozen 3D

❷ 查找Phrozen 3D 設置

- 打開軟體後，點擊檔案 → 機器 → + → 選擇Phrozen Sonic XL 4K → ADD Machine 即可選擇Phrozen Sonic XL 4K 作為默認列印機。

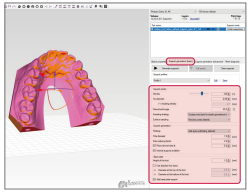
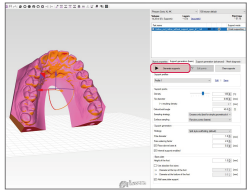


- 選擇列印機並設置切片的層厚。



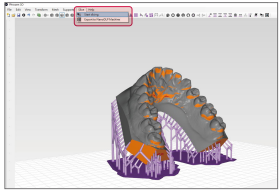
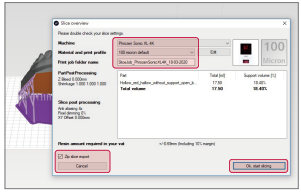
❸ 設定支撐

- 建立支撐時，請設置以下參數。
- 密度:>80%是很好的開始。
- 尖端直徑:0.8-1.2mm適用於標準型號。
- 底版:使其大於模型更好，按開始以自動構建支撐・

❹ 切片並保存模型

- 點擊切片並開始切片。請將其導出為ZIP文件。然後，您可以通過USB或WIFI將切片的文件上傳到列印機。

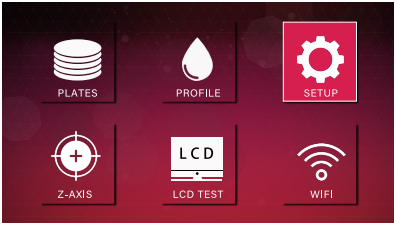



安全關機步驟

SD卡中已內建Phrozen OS，並已列安裝在列印機中。正確關閉列印機可以避免Phrozen OS系統受到損壞。

❶ **安全關機步驟**

進入SETUP，點擊SHUTDOWN，當觸控螢幕顯示關閉圖像時，請關閉列印機的電源。



❷ **如果您的列印機無法重新啟動...**

請使用默認firmware重新刷新SD卡。

您可以在列印機隨附的USB中找到firmware，或者到Phrozen 的YouTube頻道觀看教學影片。

保養技巧

❶ **如何更換離型膜與LCD面板**
- 可參閱我們Youtube頻道，有詳細影片教學。

❷ **如何保養Z軸**
- 可以在Z軸螺絲上塗抹普通潤滑劑使其順暢地運行。

❸ **使用適當的工具清潔槽體**
- 為了避免離型膜之破壞，請使用塑料刮刀清潔樹酯槽體。

❹ **小心取下列印載台**
- 避免列印載台直接碰觸LCD面板造成之破壞。

❺ **妥善保存樹酯**
- 過濾樹脂並確保沒有殘留物並將樹脂保存在不透明且密封的瓶子中，避免陽光直射。

❻ **清潔列印機**
- 直接用餐巾紙沾附酒精清潔列印機、樹酯槽和列印載台。

問與答

❶ **我的 Sonic XL 4K 無法正常使用**

- Phrozen提供一年的列印機保固，但不包括LCD、樹脂槽和FEP離型膜等耗材。
- 使用上遇到任何疑問，歡迎寄電子郵件至 support@phrozen3d.com
- 若您向官方經銷商購買Sonic XL 4K，請聯繫他們提供後續的保固服務。
- 保固期內送修時，請提供訂單編號即可享有保固服務。

❷ **模型無法附著在列印載台上**

- 重新進行Z軸校正或增加底層的固化時間。
- 使用80號或100號磨砂紙輕磨列印載台表面，使之粗糙化。

❸ **模型落在槽體，但支撐/模型底層會緊密附著在列印載台**

- 檢查固化時間是否在適當的範圍內。
- 檢查支撐設定-增加支撐密度和尖端直徑。

❹ **在列印成品缺少某些部分**

- 檢查固化時間是否在適當的範圍內。
- 檢查樹脂槽和LCD面板之間是否有雜物。
- 檢查LCD面板上是否有損壞點。

❺ **列印機突然當機**

- 重新插入SD卡並重新啟動系統。
- 如果您重新啟動5次，仍無法啟動，請透過support@phrozen3d.com與我們聯繫，以獲取重新刷新SD卡的韌體。

恭喜完成初步操作與認識光固化3D列印！

您已經完成了第一次3D列印。感謝您的支持並希望您使用愉快。
現在，您的3D列印旅程將開始，3個貼心小提醒:

1. 密切關注 Phrozen Facebook 以獲取最新消息。
2. 歡迎加入 **Phrozen 光固化3D 列印機** 社團，與其他用戶討論並分享心得。
3. 如有任何疑問，請隨時發送電子郵件至 support@phrozen3d.com與我們聯繫或將私人訊息發送至Phrozen臉書私訊小編。
   facebook.com/messages/t/Phrozen3DP

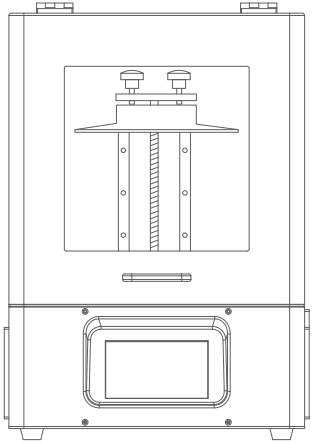
臉書私訊小編

- Facebook: @Phrozen3d
- Twitter: @Phrozen3d
- Instagram: @Phrozen3d
- Youtube: @Phrozen3DPrinter

Email Support

Message Support

Discussion Group



Phrozen3D.com